



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/914,193	01/03/2002	Johannes-Gerh Banghard	3286-0163P	9466

30596 7590 09/04/2002

HARNES, DICKEY & PIERCE, P.L.C.  
P.O.BOX 8910  
RESTON, VA 20195

EXAMINER

FISHMAN, MARINA

ART UNIT

PAPER NUMBER

2832

DATE MAILED: 09/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/914,193

Applicant(s)

BANGHARD ET AL.

Examiner

Marina Fishman

Art Unit

2832

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 January 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

The drawings are objected to because cutaway views of "annular insulator 4" should be crosshatched as such. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

The disclosure is objected to because of the following informalities: Applicant should clarify the meaning of "Z τ 1 +..." [Page 4].

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In line 17 Applicant should clarify the meaning of "Z τ 1 +...".

In line 18 Applicant should clarify the formula for calculation "a number Z". The formula indicates that Z has value of  $((D_A - D_B) \cdot s)$  to the  $1/3$  power and measured in  $\sqrt[3]{(\text{mm}) \cdot (\text{mm})}$ , it is not clear.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 1 - 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hakamata et al. [US 5763848] in view of Cherry et al. [US 4216360] and Stegmüller [US 4962289].

Hakamata et al. disclose a vacuum circuit interrupter [Figure 5] including:

- a stationary contact tip in flat spiral form [4];
- a moveable contact tip in flat spiral form [5];
- a cylindrical bolt [7];
- an annular insulator [3];
- a metallic separating wall [Figure 5].

Hakamata et al. disclose the instant claimed invention except for: a power current connection of the stationary contact tip in the form of a plate and a membrane disc with concentric corrugations, number of which should be at least 3.

Cherry et al. disclose a low voltage vacuum switch [Figures 1 – 3] having the power current connection of the stationary contact tip in the form of the plate [18a; column 3, lines 8 – 15].

Art Unit: 2832

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the power current connection of the stationary contact tip in the form of the plate in Hakamata et al., as suggested by Cherry et al., in order to reduce size of the vacuum switch and to facilitate an electrical connection [Column 3, lines 8 – 15].

Stegmüller discloses a switch chamber for a vacuum switch [Figure 4] having a membrane disc with concentric corrugations [24] with a wall thickness  $\leq 1$ mm.

Cherry et al. disclose a low voltage vacuum switch [Figures 1 – 3] having a membrane disc with at least 3 full corrugations.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the membrane disc with concentric corrugations in Hakamata et al., as suggested by Stegmüller and Cherry et al., in order to reduce size of the switch [Column 5, lines 45 – 51].

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marina Fishman whose telephone number is 703-305-1665. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 703-308-7619. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7724 for regular communications and 703-308-7724 for After Final communications.

Art Unit: 2832

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1920.

M.F.  
August 27, 2002

  
**ELVIN ENAD**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2800**

*P/31/02*